

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

Claims 1-3 (canceled)

Claim 4 (currently amended) Porous bodies as claimed in claim 4 23, wherein the water-soluble cellulose derivative is selected from the group consisting of xanthan gum, xyloglucan, cellulose acetate, methylcellulose, methylethylcellulose, hydroxyethyl-cellulose, hydroxyethylmethylcellulose, hydroxyl-propylcellulose, hydroxypropylmethylcellulose (HPMC), hydroxypropylbutylcellulose, ethylhydroxyethylcellulose, carboxymethylcellulose and its salts, or carboxymethyl-hydroxyethylcellulose and its salts.

Claim 5 (currently amended) Porous bodies as claimed in claim 4 23 wherein the surfactant is non-ionic, anionic, cationic, or zwitterionic.

Claim 6 (currently amended) Porous bodies as claimed in claim 4 23 wherein the surfactant is solid at ambient temperature.

Claim 7 (currently amended) Porous bodies as claimed in claim 4 23 wherein the surfactant is selected from the group consisting of ethoxylated triglycerides; fatty alcohol ethoxylates; alkylphenol ethoxylates; fatty acid ethoxylates; fatty amide ethoxylates; fatty amine ethoxylates; sorbitan alkanoates; ethylated sorbitan alkanoates; alkyl ethoxylates; pluronics; alkyl polyglucosides; stearyl ethoxylates; alkyl polyglycosides; alkylether sulfates; alkylether carboxylates; alkylbenzene sulfonates; alkylether phosphates; dialkyl sulfosuccinates; alkyl sulfonates; soaps; alkyl sulfates; alkyl carboxylates; alkyl phosphates; paraffin sulfonates; secondary n- alkane sulfonates; alpha-olefin sulfonates; isethionate sulfonates; fatty amine salts; fatty diamine salts; quaternary ammonium compounds; phosphonium surfactants; sulfonium surfactants ; sulfonxonium surfactants;

N-alkyl derivatives of amino acids; imidazoline surfactants; amine oxides; amidobetaines; and mixtures thereof

Claim 8 (currently amended) Porous bodies as claimed in claim 4 23 wherein the porous polymeric bodies have water-soluble material incorporated into the polymeric lattice; wherein the water soluble material is selected from the group consisting of water soluble vitamins; water soluble fluorescers; activated aluminium chlorohydrate; transition metal complexes used as bleaching catalysts; water soluble polymers; diethylenetriaminepentaacetic acid (DTPA); primary and secondary alcohol sulphates containing greater than C8 chain length; or mixtures thereof.

Claim 9 (canceled)

Claim 10 (currently amended) Water soluble porous polymeric bodies as claimed in claim 4 23 wherein the water-insoluble material is selected from the group consisting of antimicrobial agents; antidandruff agent; skin lightening agents; fluorescing agents; antifoams; hair conditioning agents; fabric conditioning agents; skin conditioning agents; dyes; UV protecting agents; bleach or bleach precursors; antioxidants; insecticides; pesticides; herbicides; perfumes or precursors thereto; flavourings or precursors thereto; pharmaceutically active materials; hydrophobic polymeric materials; and mixtures thereof.

Claim 11 (canceled)

Claim 12 (currently amended) A method as claimed in claim 4 24 wherein the cooling of the liquid medium is accomplished by spraying an atomised emulsion into the fluid freezing medium; by dropping drops of the emulsion into the fluid freezing medium or by pouring the emulsion into a mould and cooling the emulsion in the mould.

Claim 13 (currently amended) A method as claimed in claim 4 24 wherein the water-soluble polymeric material is a water-soluble natural gum, a water-soluble polysaccharide, a water-soluble cellulose derivative or a water-soluble homopolymer or copolymer comprising (co)monomers selected from the group consisting of:

vinyl alcohol,
acrylic acid,
methacrylic acid
acrylamide,
methacrylamide
acrylamide methylpropane sulphonates
aminoalkylacrylates
aminoalkylmethacrylates
hydroxyethylacrylate
hydroxyethylmethacrylate
vinyl pyrrolidone
vinyl imidazole
vinyl amines
vinyl pyridine
ethyleneglycol
ethylene oxide
ethyleneimine
styrenesulphonates
ethyleneglycolacrylates
ethyleneglycol methacrylate; and

mixtures thereof.

Claim 14 (currently amended) A method as claimed in claim 44 24 wherein the surfactant is non-ionic, anionic, cationic, or zwitterionic.

Claim 15 (currently amended) A method as claimed in claim 44 24 wherein the surfactant is solid at ambient temperature.

Claim 16 (currently amended) A method as claimed in claim 44 24 wherein the surfactant has an HLB value of 8 to 18.

Claim 17 (currently amended) A method as claimed in claim 44 24 wherein the surfactant is selected from the group consisting of ethoxylated triglycerides; fatty alcohol ethoxylates; alkylphenol ethoxylates; fatty acid ethoxylates ; fatty amide ethoxylates; fatty amine ethoxylates; sorbitan alkanoates; ethylated sorbitan alkanoates; alkyl ethoxylates; pluronics; alkyl polyglucosides; stearyl ethoxylates; alkyl polyglycosides; alkylether sulfates; alkylether carboxylates; alkylbenzene sulfonates; alkylether phosphates; dialkyl sulfosuccinates; alkyl sulfonates; soaps; alkyl sulfates; alkyl carboxylates; alkyl phosphates; paraffin sulfonates; secondary n- alkane sulfonates; alpha-olefin sulfonates; isethionate sulfonates; fatty amine salts; fatty diamine salts; quaternary ammonium compounds; phosphonium surfactants; sulfonium surfactants; sulfonxonium surfactants; N-alkyl derivatives of amino acids (such as glycine, betaine, aminopropionic acid); imidazoline surfactants; amine oxides; amidobetaines; and mixtures thereof.

Claim 18 (canceled)

Claim 19 (currently amended) A method as claimed in claim 44 24 wherein the discontinuous phase of the emulsion comprises 20 to 60% by volume of the emulsion.

Claim 20 (currently amended) A method as claimed in claim 44 24 wherein the discontinuous phase of the emulsion is selected from the group consisting of alkanes; cyclic hydrocarbons; halogenated alkanes; esters; ketones; ethers; volatile cyclic silicones and mixtures thereof.

Claim 21 (currently amended) Solutions or dispersions comprising water-soluble polymeric materials and surfactant formed by exposing the water-soluble porous bodies of claim 4 24 to an aqueous medium.

Claim 22 (canceled)

Claim 23 (new) Water-soluble porous bodies comprising a three dimensional, oil-in-water emulsion-templated, freeze-dried, open-cell lattice, from which substantially all of the water and oil have been removed comprising:

- (a) less than 10% by weight of water-soluble polymeric material other than a surfactant, said water-soluble polymeric material forming a homogeneous solution in water;
- (b) about 5 to 95% by weight of a surfactant; and,
- (c) a water-insoluble material incorporated into said lattice to be dispersed when the water-soluble porous body dissolves;

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g, and comprise two types of pores: one from the sublimation of solid ice of the continuous aqueous phase and one from the sublimation of the solid oil of the discontinuous phase;

wherein said porous bodies are powders having a particle size below about 0.2 mm or moulded bodies having a particle size above about 5 mm;

with the proviso that said porous bodies are not spherical beads having an average bead diameter of 0.2-5.0 mm;

wherein said water-soluble polymeric material is a water-soluble natural gum, a water-soluble polysaccharide, a water-soluble cellulose derivative or a water-soluble homopolymer or copolymer comprising (co)monomers selected from the group consisting of:

vinyl alcohol,

acrylic acid,

methacrylic acid

acrylamide,

methacrylamide

acrylamide methylpropane sulphonates

aminoalkylacrylates

aminoalkylmethacrylates

hydroxyethylacrylate

hydroxyethylmethacrylate

vinyl pyrrolidone

vinyl imidazole

vinyl amines

vinyl pyridine

ethyleneglycol

ethylene oxide
ethyleneimine
styrenesulphonates
ethyleneglycolacrylates
ethyleneglycol methacrylate; and
mixtures thereof.

Claim 24 (new) A method of preparing water-soluble porous bodies comprising a three dimensional, oil-in-water emulsion-templated, freeze-dried open-cell lattice comprising:

- (a) less than about 10% by weight of a water-soluble polymeric material other than a surfactant; said water-insoluble polymeric material forming a homogeneous solution in water;
- (b) about 5 to 90% by weight of a surfactant, and
- (c) a water-insoluble material incorporated into said lattice to be dispersed when the water-soluble porous body dissolves;

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g;

wherein said porous bodies are powders having a particle size below about 0.2 mm or moulded bodies having a particle size above 5 mm; and

with the proviso that said porous bodies are not spherical beads having an average bead diameter of about 0.2-5.0 mm;

comprising the successive steps of:

a) providing an oil-in-water emulsion comprising the water-soluble polymeric material, the water-insoluble material in a discontinuous oil phase and the surfactant, wherein the aqueous phase and the oil phase together form a liquid medium, and the discontinuous phase of the emulsion comprises about 10 to about 95% by volume of the emulsion;

b) providing a fluid freezing medium at a temperature effective for rapidly freezing the liquid medium;

c) cooling the liquid medium with the fluid freezing medium at a temperature below the freezing point of the liquid medium for a period effective to rapidly freeze the liquid medium; and

d) freeze-drying the frozen liquid medium to form the porous bodies by removal of the bulk of the liquid medium by sublimation, such that said porous bodies comprise two types of pores: one from the sublimation of solid ice and one from the sublimation of the solid oil of the discontinuous oil phase.